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ABSTRACT

This paper offers a theoretically grounded template for analyzing the root causes of individual performance problems in school, work, or personal pursuits. There are four basic reasons why individuals fail to perform as desired: they don't know what to do (communication problem); they don't know how to do it (knowledge problem); they don't want to do it (motivation problem); or they are not permitted to do it (environmental support problem). This paper confines itself to knowledge and motivation problems. Considerations are listed for identifying knowledge-based performance problems. Interventions or training for knowledge-based problems must address the following: (1) whether the knowledge needed to improve performance is primarily declarative or procedural; (2) how different or novel the necessary knowledge is, compared to the individual's current knowledge base and capacity to learn; and (3) how to present the new knowledge to maximize the specific individual's chances of learning and using it. Motivation problems include lack of commitment and overconfidence; symptoms include procrastination, "passing the buck," careless mistakes, giving up easily, and denigrating the task. Ford's Motivation Systems Theory (MST) provides a useful framework to summarize and apply motivational research. MST assumes that motivated behaviors can be explained by personal goals (goal content and related cognitive processes), personal agency beliefs, and goal-related emotions. Choice and commitment problems are distinguished from effort problems. (SV)

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THE PSYCHOLOGY OF HUMAN PERFORMANCE

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The Psychology of Human Performance

David A. Thomas

Introduction

Why is my child having such a difficult time achieving good grades in school? Why do some of my training program participants exhibit certain behavior patterns that are counterproductive to the goals of the team? Why do certain employees fail to meet performance expectations? Why do I have such a hard time making enduring positive changes in my own attitudes and behaviors?

Realistically evaluating an individual's performance, and then developing interventions designed to close undesirable "performance gaps," has been the job of responsible parents, educators and leaders throughout history. In fact, successful leadership in any capacity could be defined as one's ability to cultivate individuals who possess the *ability* and *desire* to effectively set and achieve worthwhile goals; individuals who can learn new information and skills quickly; individuals who can adapt appropriately to changing circumstances and environmental demands.

New theoretical insights in the areas of cognitive, social, and motivational psychology have the potential to translate into specific strategies that may provide the key to understanding and solving many human performance problems. The purpose of this monograph is to describe a theoretically grounded template that can be used to analyze the root causes of performance problems at the individual level. Based on a clear understanding of the specific reasons for performance problems, effective interventions can then be developed to solve the problem at hand.

Basis of Performance Problems

There are really only four reasons why individuals fail to perform as desired: they don't know *what* to do (a communication problem); they don't know *how* to do it (a knowledge problem); they don't *want* to do it (a motivation problem); or they are not *permitted* to do it (environmental support problem). All performance related problems can be boiled down to one, or a combination, of these four factors.

The initial challenge in developing a clear insight into why an individual is not performing as desired is to determine whether the problem is related to communication, knowledge, motivation, or environmental support. We will confine our analysis to knowledge and motivation related human performance problems, since communication and environmental support related issues and interventions associated with performance are reasonably well documented in the popular literature.

Identifying Knowledge Problems

When a performance problem surfaces, ask yourself the following questions: 'Has the person ever successfully done this task before? If this person's life depended on it, could he/she effectively perform this task? If the answer to either of these questions is "yes," then it is probably *not* a knowledge problem. Generally, decreasing performance over time is also probably *not* a knowledge problem.

Does the individual appear committed to the task at hand? Are the goals and performance criteria clearly specified? Is the environment supportive? If all of these factors seem to be present, and the individual is still failing, this points to a possible knowledge problem. Performance problems associated with novel tasks, new procedures, and changing requirements could easily be knowledge related problems.

Addressing Knowledge Problems

When developing knowledge related interventions or training: First, is the knowledge needed to improve performance primarily declarative or procedural in nature? Second, how different or novel is the knowledge needed to improve performance compared with the individual's current knowledge base and capacity to learn? How can the new knowledge be presented in order to maximize the specific individuals chances of learning and using this new knowledge?

Declarative Versus Procedural Knowledge — Knowledge contains declarative and procedural components. In general, declarative knowledge could be defined as "what we know," whereas procedural knowledge could be defined as "what we know how to do."

In general, declarative knowledge is easy to learn (or unlearn), whereas procedural knowledge tends to become automated and is thus very difficult to modify or change. Procedural and declarative knowledge also differ in their "transfer characteristics," the ability to generalize the new information to other contexts: to apply the new information in new ways or situations (Gick & Holyoak, 1987). Training programs or interventions designed to help individuals gain knowledge must consider the declarative/procedural nature of the knowledge to be learned.

Novelty of the Information — Learning theory tells us that the most effective way to learn new information is to link new concepts and ideas to other things that you know well and are concerned with. This process also improves one's chances of achieving effective transfer of the learned concepts to other domain.

Unfortunately, extremely novel concepts and ideas can be difficult to relate to previously learned knowledge. The ability to solve novel problems and learn new information is related to an individual's metacognitive skills and self-regulatory processes. These self-regulatory processes help individuals explore their own perceptions and current knowledge, get in touch with their own goals and passions, draw parallels and develop analogies, manage attentional and environmental challenges, and modify attitudes and beliefs based on new information.

Knowledge related interventions should incorporate the appropriate use and development of declarative, procedural, and metacognitive capabilities, depending on the type of knowledge one must acquire. The newly emerging concept of adaptive expertise (Holyoak, 1991), considers interrelationships between declarative, procedural, and metacognitive processes in learning, which may deal more effectively with novel problems and transfer of learning. Smith, Ford, and Kozlowski (1997) provide a good review of the literature in this area.

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Identifying Motivation Problems

When a performance problem surfaces, ask yourself the following questions: Does the individual appear committed to the task? Is the individual overconfident? Lack of commitment and overconfidence are both symptoms of motivation problems. Symptoms such as procrastination, "passing the buck," making careless mistakes, giving up easily, and denigrating the task are all characteristics of a motivation problem.

Factors Associated With Motivated Behaviors

The concept of motivation is at the heart of many of society's most pervasive and enduring problems. Motivation can be shaped by social environments and has a direct developmental influence on behavior and personality (Ford, 1992). Motivational theories have evolved from a mechanistic viewpoint of humans reacting to internal/external influences basically outside of our control toward a viewpoint that takes into consideration internal cognitive processes (e.g., expectancy theory, locus of control, causal attributions). More recently, motivational research has begun to consider concepts associated with personal agency beliefs, goal-related processes, and the role of value and emotions in the motivational process.

Ford's Motivational Systems Theory — In an effort to develop an effective framework to develop motivational interventions, the Ford's Motivational Systems Theory (MST, Ford, 1992) will be used. MST provides a useful framework to summarize and apply motivational research, and was selected because of its suitability for analyzing various aspects of motivation within a human performance context. MST assumes that motivated behaviors can be explained by three variables: personal goals, personal agency beliefs, and emotions.

Personal goals Ford (1992) considers there to be two aspects to personal goals - content and process. Goal content can be analyzed in terms of answering questions such as, "What do you want?" "What are you trying to accomplish?" and "Why did you do that?" Goal processes relate to the "method" or "style" that one uses to conceptualize the goal; in other words, "the cognitive methods or strategies used to represent a goal" (Ford, 1992, p.110).

Clark (1997) takes this conception of personal goals one step further and points out that different individuals have different perceptions with respect to the goals that will bring the greatest sense of control, or the greatest sense of value.

Clark (1997) also breaks this category down into three different types of control values: utility, interest, and importance, which affect perceptions of control and thus goal pursuit. Utility is associated with how useful the attainment of a specific goal is with respect to the attainment of other future valued goals; interest is associated with task enjoyment or intrinsic curiosity; and importance is associated with personal significance of doing well on a task because it confirms or disconfirms one's own beliefs about oneself.

Personal Agency Beliefs According to Ford (1992), "Personal agency beliefs play a particularly crucial role in situations that are of the greatest developmental significance - those involving challenging but attainable goals" (p.124). In the MST model, personal agency beliefs are considered to reflect both capability beliefs as well as context beliefs.

Emotions Positive emotions such as happiness, joy, delight, satisfaction, contentment and optimism increase the likelihood of choosing and remaining committed to specific goals. Conversely, negative emotions, such as sadness, frustration, anxiety, fear, depression and anger decrease the likelihood of choosing and remaining committed to specific goals (Ford, 1992).

Choice/effort Distinction — According the Clark (1997), cognitive effort is one of the least explored and least understood issues in cognitive theories of motivation. Clark (1997) distinguishes choice and commitment problems from effort problems in his model, positing that choice is primarily influenced by values and that effort is primarily influenced by "efficacy and personal agency assessments of the knowledge required to achieve tasks" (p. 7). Amount of effort invested is determined by our assessment of how novel or difficult we perceive the goal to be.

Addressing motivation problems requires that each variable be considered in terms of its contribution to a specific problem. Ford (1992) provides a detailed review of all of the motivational literature, and gives recommendations with respect to motivational interventions based on the MST model.

Conclusions

In order to realistically evaluate an individual's performance and then develop interventions designed to close undesirable "performance gaps," one must differentiate knowledge problems from motivational problems. By understanding the problems associated with each, one can begin to get to the root cause of performance problems. This is the first step in determining the best course of action to effectively treat performance problems.

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